

Amendments to and Listing of the Claims:

Please amend claims 1, 4, 8, 11, 14, 23, 27, 32, 33, 42, 44, 63, 94 and 98 as follows:

1. (currently amended) A method for profiling a consumer based on consumer purchases, said method comprising the steps of:

(a) receiving a computer-readable detailed purchase record of said consumer wherein said computer-readable detailed purchase record has an associated unique consumer identification;

(b) retrieving product characterization information;

(c) calculating a consumer characterization vector from said computer-readable detailed purchase record and said product characterization information; and

(d) storing said consumer characterization vector on a computer-readable medium.

2. (original) The method described in claim 1 wherein said consumer characterization vector contains a demographic characterization of said consumer.

3. (original) The method described in claim 1 wherein said consumer characterization vector contains a product preference characterization of said consumer.

4. (currently amended) A method for profiling consumer demographics based on consumer purchases, said method comprising the steps of:

(a) receiving a computer-readable detailed purchase record of a consumer wherein said computer-readable detailed purchase record has an associated unique consumer identification, and wherein said computer-readable detailed purchase record contains information regarding the purchase of an item;

(b) retrieving a demographic characterization vector wherein said demographic characterization vector is retrieved based on said associated unique consumer identification and wherein said demographic characterization vector contains a probabilistic measure of the demographic characteristics of said consumer;

(c) retrieving a set of heuristic rules wherein said set of heuristic rules contains a probabilistic measure of the demographic characteristics of a purchaser of said item;

(d) calculating a new demographic characterization vector from said demographic characterization vector and said set of heuristic rules; and

(e) storing said new demographic characterization vector on a computer-readable medium.

5. (original) The method described in claim 4 wherein said set of heuristic rules is in the form of a product demographics vector.

6. (original) The method described in claim 5 wherein said new demographic characterization vector in step (d) is calculated as a weighted average of said product demographics vector and said demographic characterization vector.

7. (original) The method described in claim 6 wherein said weighted average is determined based on a weighting factor, wherein said weighting factor is determined as the ratio of a current product purchase amount to a cumulative product purchase amount.

8. (currently amended) A method for profiling consumer preferences based on consumer purchases, said method comprising the steps of:

(a) receiving a computer-readable detailed purchase record of a consumer wherein said detailed purchase record has an associated unique consumer identification, and wherein said computer-readable detailed purchase record contains information regarding a purchased item;

(b) retrieving a product preference vector wherein said product preference vector is retrieved based on said associated unique consumer identification and wherein said product preference vector contains a measure of the characteristics of prior purchases by said consumer;

(c) creating a product purchase vector from said computer-readable detailed purchase record wherein said product purchase vector contains a representation of at least one feature of said purchased item;

(d) calculating a new product preference vector from said product preference vector and said product purchase vector; and

(e) storing said new product preference vector on a computer-readable medium.

9. (original) The method described in claim 8 wherein said new product preference vector in step (d) is calculated as a weighted average of said product preference vector and said product purchase vector.

10. (original) The method described in claim 9 wherein said weighted average is determined based on a weighting factor, wherein said weighting factor is determined as the ratio of a current product purchase amount to a cumulative product purchase amount.

11. (currently amended) A data processing system for profiling a consumer, said data processing system comprising:

(a) computer processing means for processing data;

(b) storage means for storing data on a storage medium;

(c) first means for retrieving a consumer characterization vector;

(d) second means for receiving a computer-readable detailed purchase record of said consumer wherein said detailed purchase record has an associated unique consumer identification; and

(e) third means for updating said consumer characterization vector based on creating a weighted sum of product characterization information with said consumer characterization vector, wherein an updated consumer characterization vector is stored on said storage medium.

12. (original) The data processing system described in claim 11 wherein said consumer characterization vector contains a demographic characterization of said consumer.

13. (original) The data processing system described in claim 11 wherein said consumer characterization vector contains a product preference characterization of said consumer.

14. (currently amended) A computer program embodied on a computer-readable medium for profiling a consumer based on the purchase of at least one item, said computer program comprising:

(a) a consumer purchase source code segment for receiving a detailed consumer purchase record wherein said detailed consumer purchase record has an associated unique consumer identification;

(b) a updating code segment for retrieving a consumer characterization vector and updating said consumer characterization vector based on creating a weighted sum of product characterization information with said consumer characterization vector; and

(c) a storage source code segment for storing said consumer characterization vector on a computer-readable medium.

15. (original) The computer program described in claim 14 wherein said a consumer purchase source code segment for receiving a detailed consumer purchase record supports the reception of said associated unique consumer identification from a network interface.

16. (original) In a networked environment having a plurality of computers interconnected for the purpose of instantaneously transmitting and receiving data, a method for determining the applicability of an advertisement to a consumer, said method comprising the steps of:

(a) receiving a computer-readable ad characterization vector at a first computer wherein said computer-readable ad characterization vector contains a description of discretionary characteristics which correspond to a target group for said advertisement;

- (b) receiving a unique consumer ID at said first computer;
- (c) retrieving a consumer characterization vector from storage in said first computer based on said unique consumer ID;
- (d) calculating a correlation factor between said computer-readable ad characterization vector and said consumer characterization vector;
- (e) transmitting said correlation factor from said first computer to a second computer.

17. (original) The method described in claim 16 wherein said consumer characterization vector contains a demographic characterization of said consumer and wherein said computer readable ad characterization vector contains a demographic characterization of the target market for said advertisement.

18. (original) The method described in claim 16 wherein said consumer characterization vector contains a product preference characterization of said consumer and wherein said computer-readable ad characterization vector contains a product preference target market for said advertisement.

19. (original) The method described in claim 16 wherein said correlation factor is calculated as the scalar product of said consumer characterization vector and said ad characterization vector.

20. (original) The method described in claim 16, further comprising the steps of:

(f) determining a price to present said advertisement, wherein said price is a function of said correlation factor.

21. (original) The method described in claim 20 wherein said price is an increasing monotonic function of said correlation factor.

22. (original) The method described in claim 20 wherein said price is a decreasing monotonic function of said correlation factor.

23. (currently amended) In a networked environment having a plurality of computers interconnected for the purpose of instantaneously transmitting and receiving data, a method for targeting an advertisement to consumers of a specific good, said method comprising the steps of:

(a) receiving a computer-readable advertisement characterization vector at a first computer wherein said advertisement characterization vector contains a description of a target market, and wherein said description of said target market contains at least one indicator corresponding to a target product;

(b) receiving a unique consumer ID at said first computer;

(c) retrieving a consumer characterization vector from a storage unit in said first computer based on said unique consumer ID wherein said consumer characterization vector contains a plurality of purchase indicators, said purchase indicators representing previous purchases of said consumer; and

(d) calculating a correlation factor between said advertisement characterization vector and said consumer characterization vector; and

(e) transmitting said correlation factor to a second computer.

24. (original) The method described in claim 23, further comprising the steps of:

(f) determining a price to present said advertisement, wherein said price is a function of said correlation factor.

25. (original) The method described in claim 24 wherein said price is an increasing monotonic function of said correlation factor.

26. (original) The method described in claim 24 wherein said price is a decreasing monotonic function of said correlation factor.

27. (currently amended) A data processing system for determining the applicability of an advertisement to a consumer and for determining a price for displaying said advertisement, said data processing system comprising:

(a) computer processing means for processing data;

(b) storage means for storing data on a storage medium;

(c) first means for receiving an ad characterization vector wherein said ad characterization vector corresponds to said advertisement;

(d) second means for receiving a unique consumer ID;

(e) third means for retrieving a consumer characterization vector based on said unique consumer ID;

(f) fourth means for determining a correlation factor wherein said correlation factor is determined from the correlation of said ad vector with said consumer characterization vector;

(g) fifth means for retrieving a pricing function; and

(h) sixth means for determining said price for displaying said advertisement to said consumer wherein said price is determined from said correlation factor and said pricing function.

28. (original) The data processing system described in claim 27 wherein said consumer characterization vector contains a demographic characterization of said consumer.

29. (original) The data processing system described in claim 27 wherein said consumer characterization vector contains a product preference characterization of said consumer.

30. (original) The data processing system described in claim 27 wherein said price is an increasing monotonic function of said correlation factor.

31. (original) The method described in claim 27 wherein said price is a decreasing monotonic function of said correlation factor.

32. (currently amended) A computer program embodied on a computer-readable medium for determining the applicability of an advertisement to a consumer, said computer program comprising:

(a) an advertisement source code segment for receiving an ad characterization vector;

(b) a consumer characterization code segment for receiving a unique consumer ID and retrieving a consumer characterization vector corresponding to said unique consumer ID; and

(c) a correlating source code segment for calculating a correlation factor between said ad characterization vector and said consumer characterization vector.

33. (currently amended) The computer program described in claim 32,[[.]] further comprising:

(d) a transmitting source code segment for transmitting said correlation factor.

34. (original) A method for constructing a subscriber characterization vector and for allowing access to the subscriber characterization vector without revealing specific viewing habits, the method comprising the steps of:

(a) creating a record of the viewing habits of at least one subscriber in a household;

(b) determining a subscriber characterization vector based on the record of the viewing habits, wherein the subscriber characterization vector does not contain specific viewing information; and

(c) allowing access to the subscriber characterization vector to determine applicability of an advertisement.

35. (original) The method of claim 34 wherein access to the subscriber characterization vector is performed by allowing correlation of an advertisement characterization vector with the subscriber characterization vector.

36. (original) A method for constructing a consumer characterization vector and for allowing access to the consumer characterization vector without revealing specific purchases, the method comprising the steps of:

(a) creating a record of purchases;

(b) determining a consumer characterization vector based on the purchases, wherein the consumer characterization vector does not contain specific purchase information; and

(c) allowing access to the consumer characterization vector to determine applicability of an advertisement.

37. (original) The method of claim 36 wherein access to the subscriber characterization vector is performed by allowing correlation of an advertisement characterization vector with the consumer characterization vector.

38. (original) A method for profiling a consumer based on multiple purchases made by the consumer that are accumulated in detailed purchase records of the consumer, the method comprising:

retrieving the detailed purchase records;

retrieving product characterization information associated with products included in the detailed purchase records; and

generating a profile of the consumer based on the detailed purchase records and the product characterization information.

39. (original) The method described in claim 38, wherein the consumer profile includes a demographic profile of the consumer.

40. (original) The method described in claim 38, wherein the consumer profile includes a product preference profile of the consumer.

41. (original) The method of claim 38, wherein said generating a profile includes generating a first consumer profile, and further comprising storing the first consumer profile in a storage medium.

42. (currently amended) The method of claim 41, wherein said retrieving detailed purchase records includes retrieving first detailed purchase records, and further comprising:

retrieving second detailed purchase records for the consumer, wherein the second detailed purchase records include an inventory of the purchases of the consumer since the first profile was generated;

retrieving product characterization information associated with products included in the second detailed purchase records;

generating a second profile of the consumer based on the second detailed purchase records and the associated product characterization information; and

calculating a third profile of the consumer from the first consumer profile and the second consumer profile.

43. (original) The method of claim 42, wherein said calculating a third profile includes calculating the third consumer profile as a weighted average of the first consumer profile and the second consumer profile.

44. (currently amended) The method of claim ~~23~~43, wherein the weighted average is a ratio of records in the first detailed purchase records to records in the second detailed purchase records.

45-46. (canceled)

47. (original) The method of claim 38, wherein said generating a profile of the consumer includes generating a product preference profile of the consumer based on the detailed purchase records.

48. (original) The method of claim 47, wherein said generating a product preference profile includes determining a probability of the consumer purchasing a particular product.

49. (original) The method of claim 47, wherein said generating a product preference profile includes determining a consumer preference for a particular brand of a product line.

50. (original) The method of claim 49, wherein the consumer preference is a probabilistic measure based on purchases within the product line contained in the detailed purchase records.

51. (original) The method of claim 49, wherein said generating a product preference profile includes determining a consumer preference for a particular attribute of a product line.

52. (original) The method of claim 51, wherein the particular attribute includes size.

53. (original) The method of claim 38, wherein the multiple purchases made by the consumer are point-of-sale transactions.

54. (original) The method of claim 38, wherein the multiple purchases made by the consumer are accumulated from at least two different locations.

55. (original) The method of claim 38, wherein the consumer profile is in the form of a vector.

56. (original) A method for profiling a consumer based on transactions performed by the consumer at multiple locations, the transactions being recorded and accumulated in detailed transaction records for the consumer, the method comprising:

retrieving the detailed transaction records, wherein the detailed transaction records include an inventory of the recorded transactions of the consumer; and

generating a profile of the consumer based on the detailed transaction records and a set of heuristic rules associated with transactions within the detailed transaction records, the set of heuristic rules defining a probabilistic measure of demographic characteristics of a person performing the transactions.

57. (original) The method of claim 56, wherein the multiple transactions include point-of-sale purchases.

58. (original) The method of claim 57, wherein the multiple transactions further include television viewing transactions and Internet viewing transactions.

59. (original) The method of claim 56, wherein said retrieving the detailed transaction records includes:

storing the transactions performed by the consumer at multiple locations; and

generating the detailed transaction records based on the stored transactions, wherein the detailed transaction records includes a summary of the transactions over a predetermined time interval.

60. (original) A method for updating an initial consumer profile based on multiple purchases made by the consumer and accumulated in intermediate detailed purchase records of the consumer, the method comprising:

retrieving the initial profile of the consumer;

retrieving the intermediate detailed purchase records which include an inventory of the purchases of the consumer for a predefined time frame;

generating an intermediate consumer profile based on the intermediate detailed purchase records; and

calculating a new consumer profile as a weighed average of the initial consumer profile and the intermediate consumer profile.

61. (original) A system for profiling a consumer based on multiple purchases made by the consumer that are accumulated in detailed purchase records of the consumer, the system comprising:

means for retrieving the detailed purchase records;

means for retrieving product characterization information associated with products included in the detailed purchase records; and

means for generating a profile of the consumer based on the detailed purchase records and the product characterization information.

62. (original) The system of claim 61, wherein said means for generating a profile generates a first consumer profile, and further comprising a storage medium for storing the first consumer profile.

63. (currently amended) The system of claim 62, wherein said means for retrieving detailed purchase records retrieves first detailed purchase records, and further comprising:

means for retrieving second detailed purchase records for the consumer, wherein the second detailed purchase records include an inventory of the purchases of the consumer since the first consumer profile was generated;

means for retrieving product characterization information associated with products included in the second detailed purchase records;

means for generating a second profile of the consumer based on the second detailed purchase records and the associated product characterization information; and

means for calculating a third profile of the consumer from the first profile and the second profile.

64. (original) The system of claim 63, wherein said means for calculating a third profile calculates the third profile as a weighted average of the first profile and the second profile.

65. (original) The system of claim 64, wherein said means for calculating a third profile includes means for determining the weighted average as a ratio of records in the first detailed purchase records to records in the second detailed purchase records.

66. (canceled)

67. (original) The system of claim 61, wherein said means for generating a profile of the consumer includes means for generating a product preference profile of the consumer based on the detailed purchase records.

68. (original) The system of claim 61, wherein the multiple purchases made by the consumer are point-of-sale transactions.

69. (original) The system of claim 61, wherein the multiple purchases made by the consumer are accumulated from at least two different locations.

70-72. (canceled)

73. (original) A method for selecting an advertisement to be presented to a consumer by determining the similarity between a profile of the consumer which is generated from detailed purchase records of the consumer and a profile of the advertisement which identifies discretionary characteristics of an intended target market of the advertisement, the method comprising:

receiving the advertisement profile for the advertisement;

retrieving the consumer profile, wherein the detailed purchase records used to generate the consumer profile include multiple point-of-sale transactions; and

calculating a correlation factor between the advertisement profile and the consumer profile.

74. (original) The method described in claim 73, wherein

the advertisement profile includes a demographic characterization of the intended target market;

the consumer profile includes a demographic characterization of the consumer; and

said calculating a correlation factor includes calculating the correlation factor between the demographic characterization of the intended target market and the demographic characterization of the consumer.

75. (original) The method described in claim 73, wherein

the advertisement profile includes a product preference characterization of the intended target market;

the consumer profile includes a product preference characterization of the consumer; and

said calculating a correlation factor includes calculating the correlation factor between the product preference characterization of the intended target market and the product preference characterization of the consumer.

76. (original) The method of claim 73, wherein said calculating a correlation factor includes calculating the correlation factor as a scalar product of the consumer profile and the advertisement profile.

77. (original) The method of claim 73, further comprising determining a price to present the advertisement to the consumer, wherein the price is a function of the correlation factor.

78. (original) The method of claim 77, wherein the price is an increasing monotonic function of the correlation factor.

79. (original) The method of claim 77, wherein the price is a decreasing monotonic function of the correlation factor.

80. (original) The method of claim 73, wherein the discretionary characteristics include an indicator associated with a particular product, and further comprising determining if the detailed purchase records support the indicator associated with the product.

81. (original) The method of claim 80, wherein the associated indicator includes previously purchased, never purchased, or only purchases.

82. (original) The method of claim 81, wherein said correlating is only performed if the detailed purchase records support the associated indicator.

83. (original) The method of claim 73, wherein the detailed purchase records are accumulated in at least one external database.

84. (original) The method of claim 73, wherein the multiple point-of-sale transactions included in the detailed purchase records are transacted at a plurality of locations.

85. (original) The method of claim 73, further comprising presenting the applicable advertisement to the consumer via a television.

86. (original) The method of claim 85, wherein the applicable advertisement is transmitted to the television via a telecommunications access system.

87. (original) The method of claim 86, wherein the television access system includes cable television systems, switched digital video systems, and microwave telecommunications systems.

88. (original) The method of claim 73, further comprising presenting the applicable advertisement to the consumer via mail.

89. (original) The method of claim 73, wherein the consumer profile and the advertisement profile are in the form of vectors.

90. (original) A method for determining how applicable an advertisement is to a consumer by comparing a profile of the consumer which is generated from multiple transactions of the consumer to a profile of the advertisement which identifies discretionary characteristics of an intended target market of the advertisement, the method comprising:

receiving the advertisement profile for the advertisement;

retrieving the consumer profile, wherein the multiple transactions used to generate the consumer profile include purchases of the consumer from multiple points-of-sale; and

calculating a correlation factor between the advertisement profile and the consumer profile.

91. (original) The method of claim 90, wherein the multiple transactions further include television viewing transactions.

92. (original) The method of claim 90, wherein said retrieving the consumer profile includes

retrieving a detailed transaction record, wherein the detailed transaction record includes an inventory of each of the multiple transactions which occurred over a predetermined time interval; and

generating the consumer profile from the detailed transaction record.

93. (original) The method of claim 92, wherein said retrieving the consumer profile further includes retrieving a set of heuristic rules associated with transactions within the detailed transaction records, the set of heuristic rules defining a probabilistic measure of demographic characteristics of a person performing the transactions, and said generating the consumer profile includes generating the consumer profile based on the detailed transaction record and the set of heuristic rules.

94. (currently amended) The method of claim 92, wherein said retrieving the detailed transaction record includes:

storing each of the multiple transactions of the consumer; and

generating the detailed transaction record based on the stored transactions.

95. (original) A system for selecting an advertisement to be presented to a consumer by determining the similarity between a profile of the consumer which is generated from detailed purchase records of the consumer and a profile of the advertisement which identifies discretionary characteristics of an intended target market of the advertisement, the system comprising:

a storage medium;

means for receiving the advertisement profile for the advertisement;

means for retrieving the consumer profile, wherein the detailed purchase records used to generate the consumer profile include multiple point-of-sale transactions; and

means for calculating a correlation factor between the advertisement profile and the consumer profile.

96. (original) The system of claim 95, further comprising means for accumulating detailed purchase records from a plurality of point of sale transactions.

97. (original) The system of claim 95, further comprising means for accumulating detailed purchase records from a plurality of locations.

98. (currently amended) The system of claim 95, further comprising:

means for retrieving a pricing function; and

means for determining a price for displaying the advertisement to the consumer, wherein the price is determined from the correlation factor and the pricing function.

99. (original) The system of claim 95, further comprising means for transmitting the advertisement to the consumer.

100. (original) The system of claim 99, wherein the means for transmitting is a television access system.

101. (original) The system of claim 99, wherein the means for transmitting is mail delivery.

102. (original) The system of claim 95, wherein said means for retrieving a consumer profile includes:

means for retrieving the detailed purchase records of the consumer;

means for retrieving a set of heuristic rules associated with products included in the detailed purchase records, wherein the set of heuristic rules define a probabilistic measure of demographic characteristics of a purchaser of corresponding products; and

means for generating the consumer profile from the detailed purchase records and the set of heuristic rules.

103. (original) A computer program embodied on a computer-readable medium for determining how applicable an advertisement is to a consumer by comparing a profile of the consumer which is generated from multiple transactions of the consumer to a profile of the advertisement which identifies specific characteristics of an intended target market of the advertisement, the computer program comprising:

a source code segment for receiving the advertisement profile for the advertisement;

a source code segment for retrieving the consumer profile, wherein the multiple transactions used to generate the consumer profile include purchases of the consumer from multiple points-of-sale; and

a source code segment for calculating a correlation factor between the advertisement profile and the consumer profile.

104. (original) The computer program described in claim 103, further comprising a source code segment for transmitting said correlation factor to advertisers.